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(12) United States Patent
Tozawa**(10) Patent No.: US 6,320,971 B1**
(45) Date of Patent: *Nov. 20, 2001**(54) SPEAKER SYSTEM AND A METHOD FOR IMPROVING SOUND QUALITY THEREOF****(76) Inventor: Katsutoshi Tozawa, 40-5, Nishiharacho 4-chome, Fuchu-shi, Tokyo 183 (JP)****(*) Notice:** This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 08/842,682**(22) Filed: Apr. 15, 1997****Related U.S. Application Data****(6362)** Continuation of application No. 08/373,250, filed as application No. PCT/JP92/01721 on Dec. 28, 1992, now abandoned.**(30) Foreign Application Priority Data**

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(51) Int. Cl.⁷ H04R 1/02; H04R 1/20**(52) U.S. Cl. 381/386; 381/348; 381/352; 381/353; 181/151; 181/155; 181/198****(58) Field of Search 381/150, 152, 381/154, 158-160, 188, 205, 386, 395, FOR 145, FOR 146, 337, 338, 345, 346, 348, 349, 352, 353, 354; 181/145, 151, 153, 155-6, 198-9****(56) References Cited****U.S. PATENT DOCUMENTS**1,975,201 * 10/1934 Elworthy 381/153
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Reference 2 (Referential material regarding technical matters such as "voice coil impedance").

Official Communication dated Oct. 5, 1999 from the EPO.

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(57) ABSTRACT

A speaker system suppresses standing waves generated in the system and reproduces clear and dynamic bass sound. The system includes a cabinet formed of acoustic isolation walls, and at least one partition wall situated inside the cabinet to form a space by surrounding the space. The partition wall suppresses the standing waves generated inside the cabinet and is formed of a material having high internal loss. The space has a total capacity more than one tenth of a capacity of the cabinet, wherein a closed end of the partition wall is located between one-half and four-fifths of a distance from one end to the other end, and an opening area of the same partition wall is located at a side opposite to the closed end in a longitudinal direction of the cabinet. The opening area is located between four-fifths and five fifths of a distance from one end to the other end.

9 Claims, 8 Drawing Sheets